

**Q1. [ 32 marks: 8 marks per section]**

1. If CS=FEA0h and IP is 3456h
  - (a) calculate the physical address
  - (b) calculate the lower range
  - (c) calculate the upper range
  - (d) show the logical address
2. Show a logical address for the physical address 789A2h
3. Assemble **MOV CX , [BX+SI-4]**
4. Disassemble **00 00 9C**

**Q2. [ 40 marks: 2 marks/register, 2 marks/flag & 2 marks/memory location content ]**

Assemble the following lines at **CS:01000h** .

Which registers will be affected? What will be their contents?

Draw memory map contents (after execution) from **CS:100h** to **CS:104h** . What will be the status flags contents?

Note: **SP = FFEh , CS=DS=SS=ES**

```

MOV BX , 100h
MOV SI , 3
MOV BP , SP
XOR AX , AX
PUSH AX
MOV WORD PTR [BX+SI] , 7
ROL SI , 1
MOV [BX] , 1234h
MOV BYTE PTR [102h] , 78h
MOV CX , [BX+SI-1]
MOV DI,[BP]
POP DX
NOT AX
INC AX
PUSH AX
stop

```

**Q3. [ 28 marks ]**

Write a program that multiplies a signed byte A by a signed word B and saves the product in C .